

# Communicating to an EnviroRanger ERS 500 using a Westermo TD32 Modem

*How to set up an EnviroRanger and the Westermo TD32 modem so that a Modbus Master can dial into the EnviroRanger to get information.*

The EnviroRanger has Level and other information located in Modbus Holding registers. In testing this setup configuration, we used the program MDBUS ([www.calta.com](http://www.calta.com)) as the Modbus Master and an internal modem on the host computer (see Application Guide 99003 for setup information on the internal modem).

## Description:

### Configuring the EnviroRanger:

After programming the EnviroRanger for the application, the following parameters need to be set for Modbus slave communications (the modem could be connected to any of the ports on the EnviroRanger; however, port 2 is the one that is intended for modem connection):

- P770 (2) = 3 (for Modbus RTU slave)
- P771 (2) = 1 (Modbus slave address of 1)
- P772 (2) = 9.6 (9600 baud)
- P773 (2) = 0 (no parity)
- P774 (2) = 8 (8 data bits)
- P775 (2) = 1 (1 stop bit)
- P776 (2) = 0 (no flow control)
- P777 (2) = 0 (no key up delay)
- P778 (2) = 3 (answer and dial)
- P779 (2) = 30 (Modem inactivity timeout = 30)

Where the (2) refers to primary index 2 (secondary index 0).

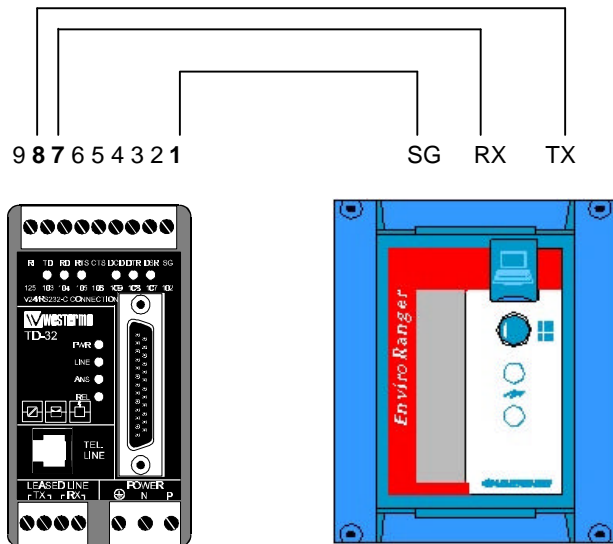
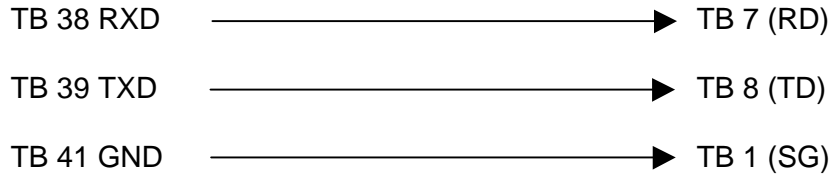
### Keywords:

Modems, Modbus RTU, ERS 500, Modem, Westermo TD 32

**Cabling**

EnviroRanger  
Terminal

Modem TD32  
Terminal Block



**Configuring the Westermo TD32 modem:**

To set up the modem, enter the following configuration of the DIP-switches:

**SW1 : Dial-up line**

number	4	3	2	1
position (0/1)	0	0	0	0

**SW2 :**

number	8	7	6	5	4	3	2	1
position (0/1)	0	0	0	0	0	0	0	0

**SW3 : 2-wire line connection**

number	8	7	6	5	4	3	2	1
position (0/1)	0	0	0	0	0	0	0	1

### **SW4 : 9600,N,8 speed and format setting up**

number	8	7	6	5	4	3	2	1
position (0/1)	0	1	1	1	0	1	1	0

### **SW5 : Select line modulation : V32 bis 9600 bps**

number	8	7	6	5	4	3	2	1
position (0/1)	0	0	0	0	1	0	0	0

## **Configuring the AT commands**

The AT commands can be configured using Hyper Terminal. This guide assumes that the user is familiar with Hyper Terminal. It is located in the Accessories folder, and the program needs to be set up as a direct connection to a serial port with 8 data bits, 1 stop bit, no parity, and 9600 baud. Connect a straight-through cable to communicate to the modem.

The following command should be set to enable reliable communications between the Modem and host device.

<b><u>AT Commands</u></b>	<b><u>Description</u></b>
AT%0	Disable data compression
ATE1	Local Echo (This must be set to 1 so that the ERS500 can look for the command echo to establish that the Modem is connected when using Report by Exception.)
AT&K0	Disable flow control

The Modem does not require the auto-answer to be set, (S0) this is set as default with a Westermo TD31.

**Note:** The information in this document is intended as a guide only. Milltronics assumes no responsibility for its application.